

# Thin type universal isolate transducer

## MODEL TH-2M, 5M



### ■ Features

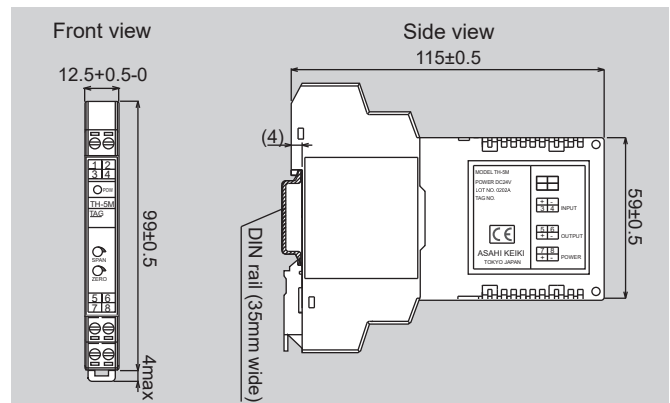
- AC power supply 100 to 240V AC
- DIN rail mounting
- Input/Output/Power supply isolated
- Can change input and output by dip switch

### ■ Ordering Code

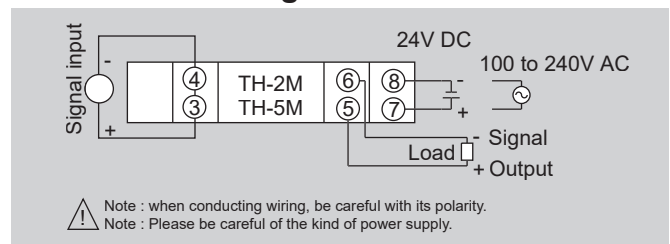
TH-☐M  
 Power specification  
☐ 2 100 to 240V AC  
☐ 5 24V DC

Example : TH-☒M

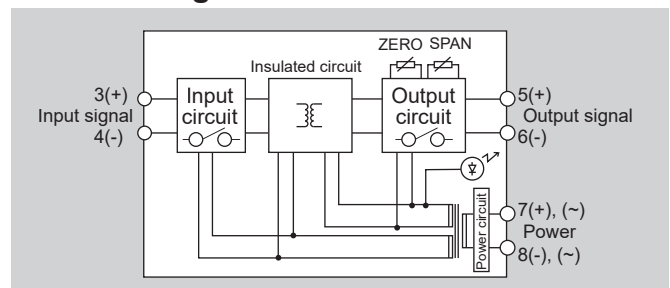
### ■ Dimensions



### ■ Connection Diagram



### ■ Block Diagram



### ■ Input Specification

| Input         | Input resistance | Input allowable range |
|---------------|------------------|-----------------------|
| 0 to 5V DC    | More than 1MΩ    | -50 to +150% F.S      |
| 1 to 5V DC    |                  |                       |
| 0 to 10V DC   |                  |                       |
| 0 to 0.06V DC |                  |                       |
| 4 to 20mA DC  | 250Ω             |                       |
| 0 to 20mA DC  |                  |                       |

### ■ Output Specification

| Output          | Load resistance |
|-----------------|-----------------|
| 0 to 5V DC      | More than 2KΩ   |
| 1 to 5V DC      |                 |
| 0 to 10V DC     |                 |
| -2 to 2V DC     |                 |
| -2.5 to 2.5V DC |                 |
| -5 to 5V DC     |                 |
| -10 to 10V DC   |                 |
| 0 to 4V DC      | Less than 550Ω  |
| 4 to 20mA DC    |                 |

### ■ General Specifications

Range setting before shipment: Input;1to 5V, Output;4 to 20mA  
 Error caused by input range setting change:  $\pm 1\%$ F.S  
 Error caused by output range setting change:  $\pm 1\%$ F.S  
 Base accuracy:  $\pm 0.1\%$  F.S (at  $25 \pm 2^\circ\text{C}$ )  
 Load resistance variation:  $\pm 0.06\%$  F.S  
 Power supply variation:  $\pm 0.06\%$  F.S  
 Temperature characteristic:  $\pm 0.02\%$  F.S/ $^\circ\text{C}$   
 Response time: Less than 50msec TYP (At AC power, 0  $\rightarrow$  90%)  
 Response time: Less than 10msec TYP (At DC power, 0  $\rightarrow$  90%)  
 Front adjustments:  $\pm 5\%$ F.S (zero, span)  
 Insulation resistance: Between the input and output/power supply  
 More than 100MΩ at 500V DC  
 Between the input and output/power supply  
 For 1 min. at 1500V AC  
 Dielectric strength: 100 to 240V AC  $\pm 10\%$   
 24V DC  $\pm 10\%$   
 Power supply voltage: Less than 30mA (at 100V AC)  
 Less than 60mA (at 24V DC)  
 Consuming current: Operating ambient temperature:  $-5$  to  $50^\circ\text{C}$   
 Operating ambient humidity: Less than 90%RH (No-condensing)  
 Storage temperature: Within  $-10$  to  $70^\circ\text{C}$   
 Storage humidity: Less than 60%RH (No-condensing)  
 Case material: Black PC 94V-2  
 Weight: Approx. 80g  
 Applicable standards: TH-5M (24V DC POWER)  
 EN61326-1  
 Only in the case of lines < 30m.  
 EN IEC 63000

#### 1. Changing input range

|        | SW1     | SW2             |                                 |
|--------|---------|-----------------|---------------------------------|
| 0~5V   | ON      | OFF             | (Range setting before shipment) |
| 1~5V   | OFF     | ON              |                                 |
| 0~10V  | OFF     | OFF             |                                 |
| 0~60mV | ON      | ON              |                                 |
| 4~20mA | OFF     | ON              |                                 |
| 0~20mA | ON      | OFF             |                                 |
|        | 1 2 3 4 | 1 2 3 4 5 6 7 8 |                                 |

#### 2. Changing output range

|           | SW1     | SW2             |                                 |
|-----------|---------|-----------------|---------------------------------|
| 0~5V      | ON      | OFF             | (Range setting before shipment) |
| 1~5V      | OFF     | ON              |                                 |
| 0~10V     | OFF     | OFF             |                                 |
| -2~2V     | ON      | ON              |                                 |
| -2.5~2.5V | OFF     | ON              |                                 |
| -5~5V     | ON      | ON              |                                 |
| -10~10V   | OFF     | OFF             |                                 |
| 0~4V      | ON      | ON              |                                 |
| 4~20mA    | OFF     | ON              |                                 |
|           | 1 2 3 4 | 1 2 3 4 5 6 7 8 |                                 |